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<110> Zhong, Pingyu Luo, Peizhi Wang, Kevin C. Hsieh, Mark Li, Yan

<120> HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR

<130> 26050-709.501

<150> US 60/284,407

<151> 2001-04-17

<150> US 10/125,687

<151> 2002-04-17

<150> US 10/153,176

<151> 2002-05-20

<150> US 10/443,134

<151> 2003-05-20

<160> 156

<170> PatentIn version 3.1

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Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 10 15

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Val Leu Ile 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Glu Leu Thr Gln Ser Pro Ser Ser Leu Ser Val Ser Ala Gly
1 10 15

Asp Arg Val Thr Ile Ser Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Val Leu Ile 35 40 45 Page 2

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Tyr Arg Phe Ser Gly 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Glu Leu Thr Gln Ser Pro Ser Ser Leu Ser Val Thr Pro Gly 10 15

Glu Arg Ala Thr Ile Thr Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Gln Val Leu Ile 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Asp Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala 65 70 75 80

Glu Asp Phe Ala Ile Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
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Asp Ile Glu Leu Thr Gln Ser Pro Ser Ser Leu Ser Val Thr Pro Gly
1 10 15

Glu Arg Ala Thr Ile Thr Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Gln Leu Leu Ile 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Asp Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Gln Ala 65 70 75 80

Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys

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Asp Ile Glu Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Leu Gly  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$ 

SeqList.26050-709.501.ST25.txt
Glu Arg Val Thr Ile Ser Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro His Leu Leu Ile 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Tyr Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala 65 70 75 80

Glu Asp Phe Ala Ala Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Thr Pro Gly  $1 \hspace{1cm} 10 \hspace{1cm} 15$ 

Glu Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Val Leu Ile 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Asp Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Thr Pro Gly 10 15

Glu Arg Val Thr Ile Ser Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Ser Leu Leu Val 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Gln Ala 65 70 75 80

Glu Asp Phe Ala Ile Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile. Lys 100 105

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Asp Ile Val Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Thr Pro Gly  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$ 

Asp Arg Val Thr Ile Ser Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Gln Leu Leu Ile 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala 65 70 75 80

Glu Asp Val Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Val Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Thr Pro Gly
1 10 15

Glu Arg Ala Thr Ile Thr Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro His Leu Leu Ile 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Tyr Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala Page 7

80

Glu Asp Phe Ala Ile Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

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<211> 107

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Asp Ile Glu Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Thr Pro Gly  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$ 

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Val Leu Ile 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Gln Pro 65 70 75 80

Glu Asp Val Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys. 100

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<211> 107

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Asp Ile Glu Met Thr Gln Ser Pro Ser Ser Leu Ser Val Thr Pro Gly  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} . \hspace{1cm} 15$ 

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro His Leu Leu Ile 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Asp Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys 100 105

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<220>

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Asp Ile Glu Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Thr Leu Gly  $1 \hspace{1cm} 10 \hspace{1cm} 15$ 

Glu Arg Val Thr Ile Ser Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro His Val Leu Ile 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Gln Ala 70 75 80

Glu Asp Val Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Glu Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 10 15

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Val Leu Île 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Asp Arg Phe Ser Gly 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
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<400> 14

Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Ala Gly  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$ 

Asp Arg Val Thr Ile Ser Cys Ser Ala Ser Gln Asp Ile Ser Asn Tyr 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Gln Leu Leu Ile 35 40 45

Tyr Phe Thr Ser Ser Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Thr Val Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Pro Gly  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$ 

Glu Arg Ala Thr Ile Ser Cys Asn Ala Ser Gln Ser Ile Gly Thr Tyr Page 11 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Gln Val Leu Ile 35 40 45

Tyr Gly Ala Ser Asn Leu Ala Ser Gly Val Pro Gly Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ser Lys Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Pro Gly  $1 \hspace{1cm} 10 \hspace{1cm} 15$ 

Glu Arg Ala Thr Ile Ser Cys Arg Ala Ser Gln Ser Ile Ser Ser Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Gln Val Leu Ile 35 40 45

Tyr Gly Ala Ser Asn Leu Ala Ser Gly Val Pro Asn Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Ser Ser Ser Pro Trp 85 90 95 SeqList.26050-709.501.ST25.txt
Thr Phe Gly Gly Thr Lys Val Glu Ile Lys
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Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Pro Gly 10 15

Glu Arg Ala Thr Ile Thr Cys His Ala Ser Gln Ser Ile Gly Thr Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro His Val Leu Ile 35 40 45

Tyr Gly Ala Ser Asn Leu Ala Ser Gly Val Pro Asn Arg Phe Ser Gly 50 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Asp Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 18

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<400> 18

Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Pro Gly
1 10 15

Glu Arg Ala Thr Ile Thr Cys His Ala Ser Gln Ser Ile Gly Thr Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro His Val Leu Ile 35 40 45

Tyr Gly Ala Ser Asn Leu Ala Ser Gly Val Pro Asn Arg Phe Ser Gly 50 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Asp Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

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<400> 19

Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Pro Gly 1 10 15

Glu Arg Ala Thr Ile Thr Cys Lys Ala Ser Gln Ser Ile Gly Thr Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Val Leu Ile 35 40 45

Tyr Asp Ala Ser Asn Leu Ala Ser Gly Val Pro Asn Arg Phe Ser Gly 50 . 55 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80 Page 14

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Ser Ser Thr Pro Tyr 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

<210> 20

<211> 107

<212> PRT

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Asp Ile Lys Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Pro Gly  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$ 

Glu Arg Ala Thr Ile Ser Cys Lys Ala Ser Gln Ser Ile Gly Ser Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Ser Val Leu Ile  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Tyr Ala Ala Ser Asn Leu Ala Ser Gly Val Pro Asn Arg Phe Ser Gly 50 60

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Tyr Ser Gly Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

<210> 21

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<400> 21

Asp Ile Lys Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Pro Gly 1 10 15

Glu Arg Ala Thr Ile Thr Cys Asn Ala Ser Gln Ser Ile Ser Thr Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Lys Val Leu Ile 35 40 45

Tyr Gly Ala Ser Asn Leu Ala Ser Gly Val Pro Asn Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ser Ala Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly 10 15

Glu Arg Ala Thr Ile Ser Cys Lys Ala Ser Gln Ser Ile Gly Ser Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Val Leu Ile 35 40 45 SeqList.26050-709.501.ST25.txt
Tyr Ser Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly
1 10 . 15

Glu Arg Ala Thr Ile Ser Cys Lys Ala Ser Gln Ser Ile Gly Thr Tyr  $20 \hspace{1.5cm} 25 \hspace{1.5cm} 30$ 

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Val Leu Ile 35 40 45

Tyr Asp Ala Ser Asn Leu Ala Ser Gly Val Pro Asn Arg Phe Ser Gly 50 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Tyr Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Ala Ile Lys 100 105

<210> 24

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Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly
10 15

Glu Arg Ala Thr Ile Ser Cys Lys Ala Ser Gln Ser Ile Gly Thr Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Val Leu Ile 35 40 45

Tyr Ser Ala Ser Asn Leu Ala Ser Gly Val Pro Asn Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Ser Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

<210> 25

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<400> 25

Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly 1 10 15

Glu Arg Ala Thr Ile Thr Cys His Ala Ser Gln Ser Ile Ser Ser Tyr 20 25 30 Page 18

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Asn Val Leu Ile 35 40 45

Tyr Gly Ala Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser Gly 50 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

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<400> 26

Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly 1 5 10 15

Glu Arg Ala Thr Ile Thr Cys His Ala Ser Gln Ser Ile Ser Thr Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Val Leu Ile 35 40 45

Tyr Gly Ala Ser Asn Leu Ala Ser Gly Val Pro Asn Arg Phe Ser Gly 50 60

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ser Ala Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Page 19 <210> 27

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Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly
1 10 15

Glu Arg Ala Thr Ile Thr Cys Lys Ala Ser Gln Ser Ile Ser Thr Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Gln Val Leu Ile 35 40 45

Tyr Asp Ala Ser Asn Leu Ala Ser Gly Val Pro Asn Arg Phe Ser Gly 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ser Ala Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

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SeqList.26050-709.501.ST25.txt
Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly
1 10 15

Glu Arg Ala Thr Ile Thr Cys Asn Ala Ser Gln Ser Ile Gly Ser Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Lys Val Leu Ile 35 40 45

Tyr Gly Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly 50 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys 100 105

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<400> 29

Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly 10 15

Glu Arg Ala Thr Ile Thr Cys Asn Ala Ser Gln Ser Ile Gly Thr Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Asn Leu Leu Ile 35 40 45

Tyr Asp Ala Ser Asn Leu Ala Ser Gly Val Pro Gly Arg Phe Ser Gly 50 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Ser Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

<210> 30

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Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$ 

Glu Arg Ala Thr Ile Thr Cys Asn Ala Ser Gln Ser Ile Gly Thr Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Asn Val Leu Ile 35 40 45

Tyr Asp Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly 50 55 60

Ser Arg.Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Tyr Ser Ala Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly
1 10 15

Glu Arg Ala Thr Ile Thr Cys Asn Ala Ser Gln Ser Ile Ser Thr Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Val Leu Ile 35 40 45

Tyr Gly Ala Ser Asn Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 75 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100

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Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly 1 10 15

Glu Arg Ala Thr Ile Thr Cys Gln Ala Ser Gln Ser Ile Ser Thr Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Lys Val Leu Ile 35 40 45

Tyr Asp Ala Ser Asn Leu Ala Ser Gly Val Pro Gly Arg Phe Ser Gly Page 23

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly 1 5 10 15

Glu Arg Ala Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Thr Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile  $35 \hspace{1cm} 40 \hspace{1cm} 45$ 

Tyr Ser Ala Ser Asn Leu Ala Ser Gly Val Pro Asn Arg Phe Ser Gly 50 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Tyr Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly 10 15

Glu Arg Ala Thr Ile Thr Cys Ser Ala Ser Gln Ser Ile Gly Thr Tyr
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Ser Val Leu Ile 35 40 45

Tyr Gly Ala Ser Asn Leu Ala Ser Gly Val Pro Gly Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala 65 70 75 80

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Asn Ser Ala Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

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Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Pro Gly 1 10 15

Glu Arg Ala Thr Ile Thr Cys Ser Ala Ser Gln Ser Ile Ser Thr Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Gln Val Leu Ile 35 40 45

Tyr Ala Ala Ser Asn Leu Ala Ser Gly Val Pro Asn Arg Phe Ser Gly 50 60

Ser Arg Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75.

Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Tyr Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys 100 105

<210> 36

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Ala Ile Arg Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
10 15

Asp Thr Val Thr Ile Ala Cys Arg Ala Ser Gln Ala Ile Arg Asn Asp 20 25 30

Leu Thr Trp Tyr Gln Gln Lys Pro Gly Thr Ala Pro Lys Leu Leu Ile 35 40 45

Tyr Gly Ala Thr Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Ser Thr Thr Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys
100 105

Page 26

<210> 37 <211> 107 <212> **PRT** Artificial Sequence <213> <220> <223> ٧L <400> 37 Asp Ile Val Met Thr Gln Thr Pro Ser Ser Leu Ser Ala Ser Val Gly  $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$ Asp Thr Val Thr Ile Thr Cys Arg Ala Ser Arg Asp Ile Arg Asn Asp 20 25 30 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Glu Leu Leu Ile 35 40 45 Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly 50 60 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80 Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Trp 85 90 95 Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys 100 105 <210> 38 <211> 107 <212> **PRT** Artificial Sequence

<220>

<223> VL

<400> 38

Glu Ile Val Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Ile Gly Page 27

1

Asp Arg Val Ala Ile Thr Cys Arg Ala Ser Arg Asp Ile Thr Thr Asp 20 25 30

Leu Ala Trp Tyr Gln Gln Ile Pro Gly Lys Ala Pro Lys Leu Leu Ile 35 40 45

Tyr Ala Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Ala Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys
100 105

<210> 39

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> VL

<400> 39

Glu Ile Val Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
5 10 15

Asp Arg Ile Thr Ile Thr Cys Arg Ala Ser Arg Asp Ile Arg Asp Asp 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Val Leu Ile 35 40 45

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 75 80

SeqList.26050-709.501.ST25.txt Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys 100 105

<210> 40

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> VL

<400> 40

Glu Ile Val Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Thr Tyr 20 25 30

Ile Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile 35 40 45

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Thr Ser Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Arg Ser Leu Gln Pro 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Trp  $85 \hspace{1cm} 90 \hspace{1cm} 95$ 

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys 100 105

<210> 41

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> VL

<400> 41

Glu Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ala Ile Tyr Asp Tyr 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Asn Leu Leu Ile 35 40 45

Tyr Ala Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys 100

<210> 42

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> VL

<400> 42

Glu Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Arg Lys Asp 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Ile Ala Pro Lys Val Leu Ile 35 40 45

Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly 50 60 Page 30

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Pro Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys 100 105

<210> 43

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> VL

<400> 43

Glu Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Thr Tyr 20 25 30

Ile Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile 35 40 45

Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Thr Ser Arg Phe Ser Gly 50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Arg Ser Leu Gln Pro 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys 100 105

<210> 44

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> VL

<400> 44

Glu Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 10 15

Asp Thr Val Thr Ile Ala Cys Arg Ala Ser Arg Asp Ile Arg Asn Asp 20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile 35 40 45

Tyr Ala Ala Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly 50 60

Thr Gly Ser Gly Thr Asp Phe Ala Leu Thr Ile Ser Ser Leu Gln Pro 65 70 75 80

Glu Asp Ser Ala Ser Tyr Tyr Cys Gln Gln Ser Tyr Thr Ile Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys 100 105

<210> 45

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> VL

<400> 45

Glu Thr Thr Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly 10 15

Asp Thr Ile Thr Ile Ser Cys Arg Ser Ser Gln Pro Ile Thr Asn Asp 20 25 30

SeqList.26050-709.501.ST25.txt Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Asn Leu Leu Ile 35 40 45

Tyr Ala Ala Ser Arg Leu Gln Gly Gly Val Pro Ser Arg Phe Ser Gly
50 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Trp 85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys 100 105

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<211> 110

<212> PRT

<213> Artificial Sequence

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<223> VL

<400> 46

Leu Pro Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Thr Ser Asn Ile Gly Ser Asn 20 25 30

Pro Val Asn Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu 35 40 45

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Leu Ser 50 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Leu 65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ser Trp Asp Asp Ser Leu 85 90 95

Thr Gly Tyr Val Phe Gly Thr Gly Thr Gln Leu Thr Val Leu 100 105 110 <210> 47

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> VL

<400> 47

Leu Pro Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Tyr Ser Asn Ile Gly Ser Asn 20 25 30

Ala Val Asn Trp Tyr Gln Gln Leu Pro Gly Ala Ala Pro Lys Val Leu 35 40 45

Met Tyr Thr Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser 50 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Arg 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu 85 90 95

Asn Gly Tyr Val Phe Gly Thr Gly Thr Lys Leu Thr Val Leu 100 105 110

<210> 48

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> VL

<400> 48

Asn Phe Met Leu Thr Gln Pro Pro Ser Thr Ser Gly Thr Pro Gly Gln  $10 \\ Page 34$ 

Arg Val Thr Ile Ser Cys Ser Gly Ser Thr Ser Asn Ile Gly Ser Asn 20 25 30

Ser Val Thr Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Val Leu 35 40 45

Met Tyr Thr Asn Asn Gln Arg Pro Ser Gly Val Pro Glu Arg Phe Ser 50 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln 65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu 85 90 95

Asn Gly Tyr Val Phe Gly Thr Gly Thr Lys Leu Thr Val Leu 100 105 110

<210> 49

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> VL

<400> 49

Gln Ala Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln 10 15

Ser Val Thr Ile Ser Cys Ser Gly Thr Thr Ser Asn Ile Gly Ser Asn 20 25 30

Ser Val Asn Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Val Leu 35 40 45

Ile Tyr Gly Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser 50 60

Gly Ser Arg Ser Ala Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln 65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu Page 35

Ser Gly Tyr Val Phe Gly Ala Gly Thr Gln Leu Thr Val Leu 100 105 . 110

<210> 50

<211> 110

<212> PRT

<213> Artificial Sequence

85

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<223> VL

<400> 50

Gln Pro Val Leu Thr Gln Pro Pro Ser Ala Ser Ala Thr Pro Gly Gln
1 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn 20 25 30

Pro Val Asn Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Val Leu 35 40 45

Ile Tyr Ser Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser 50 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln 65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu 85 90 95

Ser Gly Tyr Val Phe Gly Thr Gly Thr Lys Leu Thr Val Leu 100 105 110

<210> 51

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> VL

<400> 51

Gln Pro Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
1 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Val Gly Arg Asn 20 25 30

Thr Val Asn Trp Tyr Gln Gln Phe Pro Gly Thr Ala Pro Lys Phe Leu 35 40 45

Met Tyr Gly Asn Asp Glu Arg Pro Ser Gly Val Pro Asp Arg Phe Ser 50 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln 65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Thr Trp Asp Asp Ser Leu 85 90 95

Asn Gly Tyr Val Phe Gly Thr Gly Thr Gln Leu Thr Val Leu 100 105 110

<210> 52

<211> 110

<212> PRT

<213> Artificial Sequence

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<223> VL

<400> 52

Gln Pro Val Leu Thr Gln Pro Pro Ser Thr Ser Gly Thr Pro Gly Gln 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn 20 25 30

Ser Val Thr Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Val Leu 35 40 45

Met Tyr Thr Asn Asn Gln Arg Pro Ser Gly Val Pro Glu Arg Phe Ser 50 60

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln 65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu 85 90 95

Ser Gly Tyr Val Phe Gly Thr Gly Thr Lys Leu Thr Val Leu 100 105 110

<210> 53

<211> 110

<212> PRT

<213> Artificial Sequence

<220>

<223> VL

<400> 53

Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
5 10 15

Arg Val Thr Ile Ser Cys Ser Gly Ser Asn Ser Asn Ile Gly Ser Asn 20 25 30

Asn Val Tyr Trp Tyr Gln Gln Phe Pro Gly Thr Ala Pro Lys Val Leu 35 40 45

Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln 65 70 75 80

Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Gly Ala Trp Asp Asp Ser Leu 85 90 95

Asn Gly Tyr Val Phe Gly Thr Gly Thr Lys Leu Thr Val Leu 100 105 110

<210> 54

<211> 111

<212> PRT

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<213> Artificial Sequence

<220>

<223> VL

<400> 54

Gln Ser Ala Leu Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
5 10 15

Arg Val Thr Ile Ser Cys Thr Gly Arg Ser Ser Asn Ile Gly Ala Gly . 20 25 30

His Asp Val His Trp Tyr Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu 35 40 45

Leu Ile Tyr Ala Asn Asp Gln Arg Pro Ser Gly Val Pro Asp Arg Phe 50 60

Ser Asp Ser Lys Ser Gly Thr Ser Ala Ser Leu Gly Ile Ser Gly Leu 65 70 75 80

Arg Ser Glu Asp Glu Ala Asp Tyr Phe Cys Ala Thr Trp Asp Asp Ser 85 90 95

Leu His Gly Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu 100 105 110

<210> 55

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 55

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Page 39 Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 55 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 56

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 56

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asp Phe Thr His Tyr 20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95 SeqList.26050-709.501.ST25.txt
Ala Lys Tyr Pro Tyr Tyr Gly Thr Ser His Trp Tyr Phe Asp Val
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 57

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 57

Glu Gly Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 58

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 58

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Phe Thr Ile Ser Leu Asp Asn Ser Lys Ser Gln Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Ala Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 59

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 59

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Gln Pro Gly Gly 1 5 10 15

Thr Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30 Page 42

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val . 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Asn Thr Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 60

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Arg Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Page 43

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

85

<210> 61

<211> 123

<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 61

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asp Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 55 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 62

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 62

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Ala Leu Asp His Phe 20 25 30

Gly Leu Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 55 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 63

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 63

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asp Phe Tyr Asn Tyr 20 25 30

Gly Ile Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala His Glu Phe 50 55 60

Thr Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 64

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 64

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Ser Leu Asp His Tyr 20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80
Page 46

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 65

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 55 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Asn Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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·<220>

<223> VH

**<400>** 66

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Phe Thr Ile Ser Leu Asp Asn Ser Lys Ser Thr Val Tyr 65 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 67

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 67

SeqList.26050-709.501.ST25.txt
Glu Val Gln Leu Val Gln Ser Gly Gly Val Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 68

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<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 68

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asn Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 69

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 69

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Asn Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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<210> 70

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 70

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 . 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 . 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115

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<211> 123

<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 71

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Thr Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Asn Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Arg Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 10 15

Ser Leu Arg Leu Thr Cys Ala Val Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45 SeqList.26050-709.501.ST25.txt
Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe
50 55 60

Lys Arg Arg Phe Thr Ile Ser Arg Asp Thr Ser Lys Asn Gln Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 73

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<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 73

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Thr Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 74

<211> 123

<212> PRT

<213> Artificial Sequence

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<400> 74

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 10 15

Thr Leu Arg Leu Thr Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 · 55 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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<223> VH

<400> 75

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 10 15

Thr Leu Arg Leu Thr Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 55 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 76

<211> 123

<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 76

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Thr Leu Arg Leu Thr Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Page 55 Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Val Thr Ile Ser Leu Asp Thr Ser Lys Ser Thr Val Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 77

<211> 123

<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 77

Gln Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Thr Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Lys Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95 SeqList.26050-709.501.ST25.txt
Ala Arg Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 78

<211> 123

<212> PRT

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<223> VH

<400> 78

Gln Val Gln Leu Val Gln Ser Gly Gly Leu Val Gln Pro Gly Gly 1 15

Thr Leu Arg Leu Thr Cys Ala Val Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Ala Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Leu Thr Phe Ser Leu Asp Asn Ser Lys Asn Pro Pro Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 79

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 79

Gln Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 55 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Asn Ser Lys Ser Thr Val Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 80

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 80

Gln Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30 Page 58 Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 81

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> . VH

<400> 81

Gln Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Thr Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 55 60

Lys Arg Arg Val Thr Ile Ser Leu Asp Thr Ser Lys Ser Gln Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Page 59

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

85

<210> 82

<211> 123

<212> PRT

<213> Artificial Sequence

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<400> 82

Gln Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 10 15

Ser Leu Arg Leu Thr Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Val Thr Ile Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80.

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 83

Gln Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Thr Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Phe Thr Ile Ser Leu Asp Thr Ser Lys Ser Gln Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 84

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 84

Gln Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Thr Leu Arg Leu Thr Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Asn Thr Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Ser Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 85

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 85

Glu Val Gln Leu Val Gln Ser Gly Gly Val Val Gln Pro Gly Gly Ser 10 15

Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr His Tyr Gly
20 25 30

Leu Asn Trp Leu Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val Gly 35 40 45

Trp Val Asn Thr Tyr Thr Gly Glu Thr Thr Tyr Ala Asp Glu Phe Lys 50 60

Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr Leu 65 70 75 80 Page 62

Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala 85 90 95

Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val Trp 100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 86

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 86

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Phe Thr His Tyr 20 25 30

Gly Ile Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Asn Asn Gly Glu Pro Thr Tyr Ala Gln Asp Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 87

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 87

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asp Phe Ala His Tyr 20 25 30

Gly Leu Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Val Asn Thr Tyr Thr Gly Glu Ser Thr Tyr Val Pro Glu Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 88

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 88

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Glu Val Gln Leu Val Gln Ser Gly Gly Val Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asp Phe Ala His Tyr 20 25 30

Gly Val Asn Trp Leu Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Thr Thr Tyr Ala His Asp Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 89

<211> 123

<212> PRT

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<223> VH

<400> 89

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asp Phe Ala Ser Phe 20 25 30

Gly Ile Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Ser Thr Tyr Ala Gln Asp Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 90

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asp Phe Asp His Phe 20 25 30

Gly Ile Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Val Asp Glu Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

Page 66

<210> 91

<211> 123

<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 91

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asp Phe Asn Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Asn Gly Glu Pro Thr Tyr Ala Pro Asp Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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<211> 123

<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 92

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asp Phe Ser His Phe 20 25 30

Gly Ile Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Thr Thr Tyr Ala His Asp Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asp Phe Ser His Phe 20 25 30

Gly Ile Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val 35 40 45

SeqList.26050-709.501.ST25.txt
Gly Trp Ile Asn Thr Tyr Thr Gly Glu Thr Thr Tyr Val Pro Glu Phe
50 55 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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<223> VH

<400> 94

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asp Phe Ser Asn Tyr 20 25 30

Gly Leu Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Glu Glu Phe 50 60

Thr Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 95

<211> 123

<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 95

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asp Phe Thr His Tyr 20 25 30

Gly Leu Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Thr Thr Tyr Ala His Glu Phe 50 55 60

Thr Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 . 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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<211> 123

<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 96

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asn Phe Tyr His Tyr 20 25 30

Gly Val Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val 35 40 45

Gly Trp Val Asn Thr Tyr Thr Gly Glu Thr Thr Tyr Ala Gln Glu Phe 50 55 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 97

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asn Phe Tyr Ser Tyr 20 25 30

Gly Leu Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val Page 71. Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Gln Glu Phe 50 55 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 98

<211> 123

<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 98

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Ser Phe Asp His Tyr 20 25 30

Gly Leu Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Asp Glu Phe 50 60

Thr Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95 SeqList.26050-709.501.ST25.txt
Ala Lys Tyr Pro Tyr Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 99

<211> 123

<212> PRT

<213> Artificial Sequence

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<223> VH

<400> 99

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Thr Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 100

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 55 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 101

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 101

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30 Page 74

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 55 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 102

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 102

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Gly 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Page 75

Ala Lys Tyr Pro Tyr Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

85

<210> 103

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 103

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 55 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Thr Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

<210> 104

<211> 123

<212> PRT

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<223> VH

<400> 104

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro His Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser

<210> 105

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> VH

<400> 105

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Thr Phe Thr Asn Tyr 20 25 30

Gly Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Ala Asp Phe 50 60

Lys Arg Arg Phe Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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Gly Leu Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Gln Asp Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80 Page 78

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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<211> 123

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Gly Leu Asn Trp Ile Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Pro Asp Phe 50 60

Thr Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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Gly Leu Asn Trp Leu Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Asn Gly Glu Thr Thr Tyr Ala Pro Asp Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

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SeqList.26050-709.501.ST25.txt
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Tyr Asn Phe Ser His Phe 20 25 30

Gly Leu Asn Trp Leu Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val 35 40 45

Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Pro Glu Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

Ala Lys Tyr Pro Tyr Tyr Tyr Gly Arg Ser His Trp Tyr Phe Asp Val 100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser 115 120

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Gly Leu Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 35 40 45

Gly Trp Val Asn Thr Tyr Thr Gly Glu Thr Thr Tyr Ala His Glu Phe 50 60

Lys Arg Arg Val Thr Phe Ser Leu Asp Thr Ser Lys Ser Thr Ala Tyr 65 70 75 80

Leu Gln Leu Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 85 90 95

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Arg